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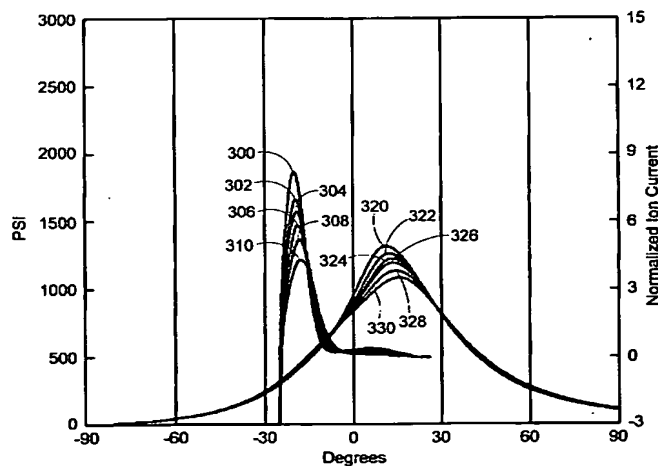
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(54) Title: METHOD AND APPARATUS FOR CONTROLLING EXHAUST GAS RECIRCULATION AND START OF COMBUSTION IN RECIPROCATING COMPRESSION IGNITION ENGINES WITH AN IGNITION SYSTEM WITH IONIZATION MEASUREMENT



(57) Abstract: An apparatus and method to detect combustion conditions using ion signals for use in a feedback control of a reciprocation engine is presented. The ion signals are used as a feedback signal to control EGR and diesel injection timing. The apparatus is an ignition system with a spark plug type of sensor. The ignition system is used to provide a cold start mechanism for diesel engines and start of combustion for spark ignition engines. The ignition is combined with ion sensing feedback that can control the engine.



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